# PADDY

SAVE OUR RICE CAMPAIGN

No. 20 July 2013


## LET LIFE EVOLVE THROUGH SEEDS !!

Some time back, while reading through documents of India's green revolution, we came across a policy recommendation for "limited generation" seeds. This policy along with the seed replacement schemes made sure that seeds became instruments for ensuring productivity. But at what cost ? With increased use of fertilisers and pesticides, the indigenous seeds that evolved through centuries in the farmers' fields were phased out and replaced with high yielding varieties (HYV) and hybrid seeds. But the HYVs and hybrids lose vigour over generations, and have to be replaced with new seeds, in the case of hybrids every cropping season! While this increased the burden on the farmer and the nation, the policy was also instrumental in destroying one of India's most revered treasures - its vast agro-biodiversity.

Green Revolution and the formula of "limited generation" seeds and "seed replacement" schemes caused the extinction of hundreds of thousands of varieties of many crops of which India is centre of origin and/or centre of diversity. Our land mass, one of the main centres of origin and domestication of crops, according to the brilliant and extraordinary botanist N I Vavilov, was home to 117 different plants, which mainly included rice, sugarcane, mango, orange, oriental cotton, brinjal, sesame and a majority of tropical fruit and vegetable crops.

One of the efforts of our campaign ( Save our Rice) is to reverse this serious mistake of the last century. And slowly, but steadily, it is happening. From a few farmers, here and there, and a few scientists like Debal Deb, who were conserving indigenous paddy seeds, now we have hundreds of seed-saver farmers, across the states of Kerala, TamilNadu, Karnataka, West Bengal and Orissa. They are not only conserving seeds but also sharing them far and wide by generously distributing them to fellow farmers.

In this issue of PADDY we bring you one such success story from TamilNadu, where since 2006, the annual "Aadhirengam Nel Thiruvizha" (Aadhirengam Paddy Festival) has attracted thousands of farmers from across the state, who gather to collect the various varieties conserved there and also to share their own collections. CREATE's centre at Aadhirengam now has a collection of 69 varieties that belong to this region, and has till date shared seeds with more than 15,000 farmers. This year, the festival saw an unprecedented participation by more than 3000 farmers. Next year, these farmers will bring back their cultivated seeds, share it with more farmers and it will go on...

Meanwhile, the best part of the story is that such Nel Thiruvizhas are becoming part of the agriculture landscape of TamilNadu. Many groups, encouraged by this success story have started celebrating such festivals. At the same time, in Karnataka, the story is a little more adventurous - we have farmers who have started conserving hundreds of varieties, as if it is a penance or an offering. One of them, Syed Ghani Khan has more than 600 varieties of paddy in his collection !! We know that there are many more such paddy seeds that are sitting in cold storage in the "private" collections of the International Rice Research Institute (IRRI) at Philippines, or the "nationalised" collections in the seed bank at the National Bureau of Plant Genetic Resources (NBPGR) at New Delhi and the various State Agricultural Universities. But the big question is: are these thousands of varieties alive? Are they viable ? Is anyone worrying about the life and evolution of these seeds ? While it is true that through the work of these farmers and a few scientists, some of these varieties continue to evolve in the natural environment, what about the over the thousands of seeds that are locked away in these banks?

We believe that farmers have a right to cultivate and save their own seeds, but we also believe that seeds have a right to evolve through the generations, in an environment most suited to them and adapt, if required, with the evolving and changing course of our climate and eco-systems. Anything that prevents this evolution will not only be a crime towards life and the right of the farmers but will also be suicidal for humanity.

**PADDY team**

## TRADITIONAL PADDY MOVEMENT IN TAMIL NADU

We all know that India is a treasure trove of wisdom, one of the ancient geographies where agriculture was happening nine months in a year; agriculture is also one of the reasons for her grand civilization and the rich cultural heritage. Most of the festivals in India are connected to agriculture and the change in seasons; with that background in mind, we will examine the traditional paddy movement which has been spawned in Tamil Nadu.

Rice is life in Tamil Nadu (TN); traditionally farmers of TN have mastered the art of cultivation of rice like in many other parts of India. Land holding in India varies and it is the same in Tamil Nadu. Traditionally there were specific varieties earmarked for small land holdings, specific seasons, agro-climatic zones and medicinal and specific food purposes. Close to 40 years after green revolution, traditional paddy has almost been forced into extinction. This is due to the focus on modern cultivars, promotion of chemical based agriculture by consecutive governments, and modern techniques. High yielding paddy dominates the Tamil Nadu paddyscape. However, India is a magical country and in the midst of all these changes, in remote corners you can find the agricultural wisdom that has been preserved and along with it a few precious traditional paddy varieties.

The Save Our Rice Campaign with the help of organic farming pioneer and philosopher Dr Nammalwar has built a movement in Tamil Nadu. Eight years of hard work from Jayaraman and team has led to a revival of traditional paddy. This movement has brought back the importance of traditional paddy to the main stream discourse. The movement's greatest contribution, apart from revival, has been to document the folk wisdom associated with the traditional paddy cultivation, the myriad varieties and the extensive uses of these (including medicinal uses of most of the varieties).

It all started with an advertisement in Pasumai Vikatan, a sustainable agriculture magazine "crop 5 times a year with "Aruvatham kuruvai". Traditionally Aruvatham kuruvai was cultivated with Otadayan another paddy variety as a mixed crop. After some search Aruvatham kuruvai seeds were obtained from Kolappa Pillai and seed multiplication started.

Jayaraman and Dr. Nammalwar at the Adirengam Seed Festival held in May 2013

## Traditional Paddy Conservation - Five Years Overview (2006-2011)

Let us examine the status of five years of traditional paddy conservation at the CREATE research centre at Adirengam. Every year since 2006, under the aegis of the SOR campaign traditional paddy seeds are being grown and distributed to farmers. A seed festival that began in 2005-2006, has been held once a year since then. In the initial years interested farmers from the neighbouring villages came to collect the paddy seeds, then slowly farmers from neighbouring districts and now from all corners of the state throng the festival at Adirengam.

From the initial 16 varieties that were grown and distributed to 425 farmers in 2006 the latest seed festival in May, 2013, saw over 3000 farmers from all the districts of Tamil Nadu flocking, to choose from 61 traditional paddy varieties. Due to the tremendous demand for seeds in the last couple of years, the SOR campaign team in Tamil Nadu has also begun holding small festivals in other districts, to reach farmers who are unable to come to Adirengam.

Below is the data from the CREATE Traditional Paddy Conservation/Organic Farming Training Center - Adhirangam for the years 2006-2011.

| Year | Varieties | Total Farmers |
|---|---|---|
| 2005-2006 | 16 | 425 |
| 2006-2007 | 26 | 1116 |
| 2007-2008 | 28 | 1629 |
| 2008-2009 | 47 | 2016 |
| 2009-2010 | 51 | 2320 |
| 2010-2011 | 53 | 2860 |
| 2011-2012 (Nov 2011) | 61 | 2900+ |

As per our projections, in 2011, over 3000 people have procured the seeds. Below is the map which plots how many farmers from each district have directly procured traditional paddy seeds during the seed festivals organized by CREATE at Adhirangam, in 2011.

### Number of farmers from each district who have procured seeds

Of the 61 varieties being conserved and distributed, 19 varieties are most popular among the farmers. Below is a table from the midyear seed festival held in November 2011 where we could collate the data of the number of farmers who procured each variety of paddy. As per our records 707 farmers participated in the festival in Adhirangam in November 2011 (the main seed festival is in May, this was held additionally due to the demand for seeds). The distribution of paddy seeds variety wise is as follows:

Some of the fascinating varieties that have been unearthed by the SOR campaign are:

**Aruvatham Kuruvai: Mid range paddy of 60 days Colour: Red**

Folk Medicinal Use: For those who are in a kind of dietary penance due to disease, this rice is boiled and the porridge is given, this is the custom in Nanjil (Kanyakumari, Nagercoil region of Tamil Nadu).

This variety is highly suitable for farmers with small land holding, and for drought prone areas, as it can be cultivated with less water and will survive on occasional rains.

**Kala Namak:**

The Legend: Buddha liked this variety very much. (Kala means "black" and namak means "salt") Buddhist monks carry this variety wherever they go. The human body needs a total of 72 essential salts, and Kala Namak has 40 of these essential salts. It takes 120 days to harvest this variety.

**Kaatu yanam:**

A deep water paddy, found in the delta regions of Thala Nyayiru during the month of August, the paddy is directly sown. During November-December the entire region will be flooded with North-East monsoon, and people would either swim or go on catamarans to harvest this deep water variety. It is a 180 day paddy, with SRI it can be harvested in 160 days. It grows up to seven feet, is flood resistant and faces hardly any pest attacks. After sowing until harvest it needs virtually no care. After harvest, the spilled paddy seeds will automatically grow during the next rains with no intervention or sowing.

The seeds that farmers love.

| Name of Variety | Total |
|---|---|
| Seeraga Sambha | 42 |
| Mappillai Sambha | 238 |
| Poongar | 39 |
| Kambanj Sambha | 23 |
| Garudanj Sambha | 28 |
| Kattu Ponni | 64 |
| Kattu Yanam | 15 |
| Sambha Mosanam | 46 |
| Aruvadham Kuruvai | 18 |
| Panangattu Kudavazhai | 28 |
| Kar Nel | 21 |
| Sivapu Kuruvikar | 58 |
| Karuppu Kavuni | 4 |
| Kavuni | 5 |
| Sivappu Kavuni | 26 |
| Karung Kuruvai | 19 |
| Soorak Kuruvai | 24 |
| Thanganj Sambha | 4 |
| Kosuva Kuthalai | 5 |

**Farmers speak:**

These seed festivals are not only about how many varieties of seeds are grown, and distributed and how many farmers come to participate and collect the seeds. It is also about the larger awakening among farmers about the value of the traditional seeds, the importance of seed saving, the experience of climate resilience of seeds and regaining confidence and faith in their role as seed savers. Farmers who collect the seeds are supposed to return double the quantity next year to add to the seed bank. Every year the number of farmers coming back with double the quantity of seeds is increasing.

The farmers who participate in the seed festival, many of them almost every year have shared their experiences with the SOR campaign team. Along with the interesting information the team gathered, they could also collate some data on yields, about the care and effort required to grow some of the varieties and the kind of climate and soil different varieties are suited for . What was most inspiring was that many of the farmers who attended the seed festival have further shared the seeds with neighbouring farmers, leading us to believe that there is a multiplier effect to the seed festival. This embodies the spirit of farming; the farmer grows crops using the energy of the sun and the fertility of the soil and shares his bounty with fellow beings and returns nutrition to the soil as well. Seed saving and seed sharing captures that spirit. Below are some excerpts of interviews with farmers who have collected seeds and have moved to growing traditional paddy varieties. These interviews were conducted during the November 2011 seed festival at Adirengam.

Number of farmers from each district who have procured seeds at the seed festival


Below we give a table of indicative yields of the various rice varieties based on the interviews conducted.

Traditional rice varieties and yields ( from farmer interviews)

| Rice Variety | Yield (Kg/acre) |
|---|---|
| Kudavazhai | 1080 |
| Seeragasambha | 1200 |
| Mappilai Sambha | 1440 |
| Kar Nel | 1800 |
| Karudan Sambha | 1620 |
| Illupai Sambha | 1080 |
| Kattu Yanam | 1080 |
| Sivappu Kuruvikkar | 1800 |
| Aruvadham Kuruvai | 1320 |
| Poongar | 1140 |

## EXCERPTS FROM INTERVIEWS WITH FARMERS

" I am coming to this festival since the last 3 years. I cultivate Kattu yanam and Kar nel, the speciality of the Kar nel is that it can be cultivated in a specialised area called Kar Kootam, the yield of Kar nel is something that farmers growing hybrid paddy, using heavy pesticides and fertilizer input, can't dream of. I get yield of 1800 kilos average by following "sow and harvest" method of farming which challenges hybrid varieties. I have never used any input for Kar nel, we go in boats to harvest Kar nel as it grows up to 5 feet height " - Adal Arasan ( Thiruvarur)

"I have been attending the festival for seed exchange since the past 5 years. I cultivate Kavuni, Seeraga sambha, Sivappu kuruvikkar, and my favorite is Sivappu kuruvikar. I get an average yield of 1800 kilos per acre with no inputs, and my crop faces no disease or pest attacks, another important feature of this variety is it grows up to 4 and 1/2 feet. I use the SRI method." - Janakiraman

" I have been coming to the festival for the past 2 years and I have collected Aruvadham Kuruvai,Poongar,Sivappu kuruvikkar seeds. Aruvadham kuruvai is a highly flood resistant variety which grows up to four feet height. I got an yield of 1260 kilos per acre for Aruvadham kuruvai and 1080 kgs per acre for Poongar.I use SRI farming and organic herbal pest repellents" - Kannazhagan (Thiruvarur)

" I have been coming to CREATE paddy festival since 2009, since then I regularly cultivate Kudavazhai. and I got an average of 1300 kilos in the normal season once and during the flood season I got around 1080 kilos per acre yield. I have one acre of land and I follow "sow and harvest" method. - Kunjithapatham (Thiruthuraipoondi)

### Going ahead

This seed festival is truly an effort to recapture seeds, similar seed conservation efforts are taking place in Karnataka (which was featured in a previous issue of PADDY), in Kerala, Orissa and West Bengal. As corporate control over seeds is increasing on one hand, seed revival and recapturing of seed sovereignty by farmers is the way ahead to preserve our food sovereignty and our heritage for the coming generations.

-

**ML Lachin.**

Lachin is a researcher on paddy, works on sustainable issues like organic farming and is profiling pesticides in paddy and banned pesticides used in India. He is working on profiling highly hazardous pesticides.

## A POSITIVE WATER FUTURE AND RICE CULTIVATION IN TAMIL NADU

-R. PONNAMBALAM

### Water bodies in Tamil Nadu

Water shortage or water scarcity is a rather recent phenomenon in Tamil Nadu, traditionally every village or town in TN had its own water bodies such as ponds, tanks or lakes to meet its requirements. The ancient rulers were digging ponds or lakes for the needs of their subjects. The village heads took care of the water bodies through a participatory approach called "Kudimaramathu" system. The temple and "Theppakulam" (temple tanks) were inseparable; there were hardly any temples in Tamil Nadu without a "Theppakulam". That was our way of life once.

**Water Stress:**

According to Swedish hydrologist Maslin Falkenmark, a situation of water stress exists if the fresh water availability is less than 1,700 cubic metres / person / year. Water scarcity occurs when it is below 1,000 cubic metres /person/year and chronic water scarcity when it is less than 500 cubic metres / person / year.

The total availability of fresh water in India is estimated at about 18.7 cu.km with a per capita availability of about 2,200 cubic metres / person / year. Hence India should normally have no major water problems. Then why are we facing a water crisis? This is because about three fourths of the rain water is wasted by allowing it to run into the ocean for want of storage.

According to various schools of thought there were 3 monsoons in Tamil Nadu and the annual rain fall averaged more than 2000 mm. The perennial rivers that originated from the Western Ghats and passed through Tamil Nadu were watering the lands without any obstruction and finally merging into Bay of Bengal. As such there was no scarcity of water in Tamil Nadu.

### Rice! Rice!

As far as Tamil Nadu is concerned it is understood that rice was familiar here as long back as 3000 years. The oldest literature of Tamil called "THOLKAPPIYAM" mentions rice grains and rice plants at various points while describing the Tamil civilization.

Rice was not considered as a commodity or a staple food but it was respected as a holy offering. No cereal is as connected with Tamil life as rice; the journey with rice starts with the birth of a person and ends only after death. Some reports say that the area under rice crop was more than 32 lakh hectares.

In many parts of the state, the village economy was the rice economy; and individual wealth of a person was assessed in terms of the quantum of his wet land holdings. In the barter exchange system the rice unit was treated as the exchange rate. There were about 5000 varieties of paddy rice with different characteristics and location specific features. Farmers could choose suitable varieties according to the agro climatic factors. There was black rice, brown rice, red rice, white rice, long slim rice, short slim rice, coarse varieties etc.

**Ground Water situation in Tamil Nadu:**

During 2003 - 2004 the CPR Environment Education Centre (CPREEC) conducted a survey in Coimbatore. According to the survey, it was found that on one hand the water level was going down rapidly and on the other, the quality of the water was deteriorating due to continuous pollution. In the latest report of PWD Tamil Nadu, except a few districts, water level has gone down to more than 1200 feet in districts like Coimbatore, Erode, Karur, Dharmapuri and Krishnagiri etc. Heavy extraction of ground water in coastal areas has also led to sea water intrusion in Tamil Nadu.

Water bodies like ponds, tanks and lakes, if maintained properly, not only keep the water table high but also control the seepage of sea water into water bodies, particularly in the coastal belts. Depletion of water is also replenished by various recharging modes.

### Current situation with water bodies

According to water experts, the rain water wasted during the monsoon in 2006 would have been enough to meet the water requirements of Tamil Nadu for two years, if it were properly stored. As per records, there should have been about 39,000 tanks and lakes in Tamil Nadu. But now there are only about 10,000 tanks. In Chennai district alone there were 243 tanks as per records, but now there are only 40 tanks. The number has gone down due to encroachments and conversion of these water bodies for purposes such as bus stands, stadiums, house sites, government buildings etc. In many cases, even the authorities concerned are not able to locate the boundaries of water bodies as per records.

Most of the surviving tanks are facing threat of encroachments. In these tanks or lakes, water cannot be stored to the optimum capacity level as specified in the records. Further, the inflow canals used for collecting rain water into tanks are blocked or have been encroached upon. Silt formation in the water bodies, excessive growth of aquatic plants inside the tanks, and breaching of unsound bunds are some of the other reasons for low water storage.

### Impact of water stress on the rice economy of Tamil Nadu

There were three crops of rice every year

in Cauvery delta, the rice bowl of Tamil Nadu, which dwindled to two crops and now there is uncertainty about even a single crop due to water scarcity.

According to the 2000 census there were 20 lakh hectares of land wherein paddy crops were raised. The population at that time was 6.27 crores. In 2010 the population of TN increased to 7.25 crores whereas the area under paddy cultivation has come down to 18.45 lakh hectares. In short, while the during the last ten year period the population has increased by one crore, the area under rice cultivation has come down by 1.5 lakh hectares. Among other reasons water scarcity is one of the main reasons for the reduction of area under paddy in Tamil Nadu. The sustainability of rice cultivation is in question for want of water. This is particularly sad for a state which has recorded rice productivity above the national average.

### CREATE connects paddy cultivation and water conservation

CREATE, which leads the Save Our Rice (SOR) campaign in Tamil Nadu, has been working to promote conservation of traditional paddy and ecologically bio-diverse paddy cultivation. We realized that the movement to save paddy would succeed only if water bodies are conserved. With this understanding CREATE has extended its campaign activities towards conservation of water bodies. Now, in all the SOR campaigns conservation of water bodies is an important component of the procee-dings and activities. Consistent efforts over the years have resulted in water conser-vation being included in the agenda of many of the political parties, religious heads and youth movements. CREATE's attempts to popularise the traditional drought resistance paddy varieties is also being accepted by farmers in water scarce areas.

### Conclusion

All our Tamil mythology, poems and traditional literature and even folk songs reiterate how to conserve water and what kind of importance should be given to water conservation. This is the task ahead of us; to create awareness to keep the traditional water bodies and conserve traditional paddy varieties, the survival of both are essential to the survival of the people.

*Mr.Ponnambalam is the Trustee of CREATE and a long standing and active water conservationist as well.*

## Hybrid paddy wilts during drought while traditional paddy survives!

Although there are a number of new intensive agricultural hybrid seeds they are no match to the time-tested traditional farmer seeds. This year Tamil Nadu faced severe drought and most of the high yielding and hybrid paddy varieties withered due to lack of rains. Our area is totally de-pendent on rains and most of the farmers here had sown JGL hybrid paddy. None of them were able to save their crops this year.

I used traditional paddy varieties which I obtained from Sri. Jayaraman of CREATE Trust. Inspired by organic farming pioneer Dr.Nammalwar and following his methods, Jayaraman intro-duced me to the traditional paddy varieties. Even though I collected traditional varieties, I also sowed 6 acres of JGL hybrid paddy in addition to 11 acres of traditional paddy -Garudan Samba . I did my sowing on August 30, 2012 and got some rains from September 12$^{th}$ to 14$^{th}$ . The paddy began to grow but the rains were not satisfactory. To my own surprise and astonishment of the villagers, while the entire JGL paddy started to wither completely, the traditional varieties stood strong. It was a vibrant green --a sight any farmer would love.

Most of the expert farmers in my village started to throng to my farm as they have never seen such a phenomenon before. Consequently, most of them have decided to go for traditional paddy from next year. Also the present trend shows that I will get 30 bags (of 60 kilos each), of yield whereas JGL would only give me a maximum of 25 to 28 bags . I am happy that nature has its own way of answering our wishes. From now I will not go for JGL or any other hybrid paddy as I will completely trust traditional paddy varieties from now.

*This is a first person account from Lakshmi Narayanan, a retired bank officer and now a successful traditional paddy farmer. This was published in Pasumai Vikatan magazine (As narrated to R Kumaresan, Pasumai Vikatan, and Published in December 2012). Mr. Jayaraman of CREATE Trust also visited Mr.Lakshmi Narayanan and ob-served the paddy experience in the latter's fields.*

*Adapted and translated for PADDY by ML Lachin*

## India rice sales to fall on Vietnam, Pakistan supplies: IRRI

The exporting of rice from India is falling with Vietnam, Myanmar and Pakistan expanding their global marketing. It is estimated that export of rice including aromatic Basmati variety may decline by 32% in 2013. Thailand may capture some of India's markets of cheap quality rice to Africa and the Middle East by selling rice at low prices in order to reduce its stocks. The FAO indicated that production of rice will climb 2.1% to 497.7 million tonnes in 2013. Any decline in exports from India will not increase global price as it will be compensated by supply from Vietnam, Pakistan, Myanmar and Cambodia. In Thailand the stock is increasing after the new government started procurement from farmers. The rice from Vietnam and Myanmar is very much cheaper than the rice from India.

*Source:http://www.livemint.com/Politics/36ESrlf5LL7Uyk6uQ9S2XM/India-rice-sales-to-fall-on-Vietnam-Pakistan-supplies-IRRI.html*
*First Published: Fri, May 17 2013.*

## FAO says rice production outpacing consumption

The FAO's Rice Market Monitor forecast that rice production in 2012 would be more than required for consumption in 2013. In Asia and Africa, production would be increasing at significant level, but there would be a 6% reduction in Latin American and Caribbean fields. It is forecasted that shipments from Australia, Egypt, Pakistan and Vietnam might increase, but Argentina, Bolivia, Brazil, India, the United States and Uruguay may mark lower sales in 2013.

*Source http://www.fao.org/news/story/en/item/164713/icode/#.UcNMSi_F288. facebook*

*(News article, 19 November 2012, Rome)*

## Government dangles tulips to hard-sell airport projects

To quell the farmer protests against the proposed airport projects in Wayanad and Idukki districts in Kerala, the State Industrial Development Corporation (KSIDC) listed the benefits of the airport project in a multi-coloured brochure. It suggested that farmers can stop growing food crops and start growing tulips as in Holland and make more money, forgetting that it is impossible to grow the tulips in our climate. Tulips require around 10-12 degree Celsius daytime temperature and a night time temperature of 3-4 degrees. The bulbs sprout only with prolonged chill weather and Srinagar is the only place in India where it is grown. The KSIDC brochure says there is no paddy cultivation in the area, even though 169.28 acres of the 337.64 acres needed for the project are paddy fields in Cheekkalloor in Wayanad, where the project is proposed. The area contributed a significant quantity of the total paddy procured in the district.

*Source:http://timesofindia.indiatimes.com/city/kozhikode/Government-dangles-tulips-to-hard-sell-airport-projects/articleshow/20341297.cms*



Campaign Awareness Material - For Private Circulation only
*Contact Office* - Save Our Rice Campaign,
Thanal, OD-3, Jawahar Nagar, Kawdiar P.O., Thiruvananthapuram, Kerala, India - 695003
Tel/Fax:91-471-2727150, email : indianricecampaign@gmail.com
PADDY Team : Usha S., Sridhar R., Sreedevi L. & Deepak R.
Layout : Anand Balan ; Printed at : Arsha Printers, TVM-10
Produced by R Ponnambalam, Managing Trustee, CREATE, Paramakudi, Tamilnadu,
with the support from EED.